

6.0 Introduction

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Indiana defines a [brownfield](#) as an abandoned, inactive, or underutilized industrial or commercial property on which expansion or redevelopment is complicated as a result of actual or perceived environmental contamination. IDEM's Brownfields Program was established in 1995 in conjunction with the U.S. Environmental Protection Agency's (EPA) Brownfields Economic Redevelopment Initiative. The program is also supported by State legislation ([Indiana Code \[IC\] 6-1.1-42 and IC 4-4-6.1-2.3](#)), which allows for the provision of services and funds to communities for assessment and cleanup of identified brownfield properties.

The Brownfields Program's goals are to identify and reduce environmental liability issues that may impede the economic growth of Indiana communities and to improve the environment, health, and economic well-being of Indiana citizens. By partnering with communities and offering financial and technical assistance, the Brownfields Program facilitates property redevelopment through different forms of project closure, which limit or qualify liability and encourage redevelopment of brownfields.

Investigative and remedial activities conducted under the Brownfields Program must ensure protection of human health and the environment. Therefore, the Brownfields Program follows the objective standards of RISC guidance to quantify threats to human health and the environment. In addition, IDEM ensures that project closures conform to federal and State requirements, especially that federal loan recipients conform to CERCLA requirements for non-time critical removals as applicable. The Brownfields Program will follow RISC procedures for conducting [Brownfields Environmental Assessments \(BEAs\)](#). RISC principles will also be the standards to which Brownfields Program grant and loan projects and [Site Status Letter](#) and [Comfort Letter](#) properties will be held.

The Brownfields Program coordinates with other IDEM programs to assist participants in addressing contamination. These programs include Immediate Removals Program, the Voluntary Remediation Program (VRP), the Leaking Underground Storage Tank (LUST) Program, the Abandoned Tank Community Assistance Program (ATCAP), and the State Cleanup Program (SCP).

6.1 Brownfields Program Services

The Brownfields Program provides education and outreach activities as well as technical and financial assistance. These services are discussed below.

6.1.1 Education and Outreach Activities

Education and outreach activities are designed to promote community awareness and encourage public and private parties to redevelop brownfields. The Brownfields Program coordinates the Interagency Brownfields Task Force, an affiliation of several State and federal agencies that share resources in order to address brownfields redevelopment issues holistically throughout Indiana. A subgroup of the task force, the [Indiana Brownfields Advisory Team \(IBAT\)](#), is available to meet with stakeholders for general roundtable discussions and project-specific meetings. The Brownfields Program also conducts workshops, participates in seminars, and develops reference materials designed to encourage program participation.

6.1.2 Technical Assistance

Technical assistance is provided to units of government through various Brownfields Program activities, such as conducting Brownfields Environmental Assessments (BEAs) to determine the presence of contamination and assist governments to assess environmental liability and the cost of any necessary cleanup. BEAs are discussed further in [Section 6.3.4](#).

The Brownfields Program also reviews grant and loan applications, evaluates work plans, provides field oversight, and reviews investigative reports to ensure that projects meet applicable closure objectives.

At the end of an investigation, IDEM evaluates site conditions and supporting documentation, and may issue a closure document that assists in making the property more marketable for redevelopment. Site Status Letters contain a review of site investigation information and evaluation of contaminant levels at the site. Comfort Letters express that the recipient falls under a legal or policy exception to liability. Recipients of BEAs and state or federal financial assistance, as well as stakeholders that have performed independent site investigations and/or remediations, are eligible for these closure documents.

6.1.3 Financial Assistance

Financial assistance is available to political subdivisions to support property assessments designed to determine if contaminants pose potential risks to human health and the environment. The Brownfields Program, in conjunction with the Indiana Development Finance Authority (IDFA), provides State and federal grants and loans for brownfields redevelopment. Under Indiana's Environmental Remediation Revolving Loan Fund (ERRLF), loans are provided to local units of government for site assessment, remediation, and demolition. Grants under this program may be used for site assessment only. Unlike the State ERRLF, the federal Brownfields Cleanup Revolving Loan Fund (BCRLF) allows private entities to apply for loans for non-time-critical removals.

6.2 RISC Guidance Application to Brownfields Program Properties

Implementing RISC guidance under the Brownfields Program provides consistent application of agency-wide property closure policies, which will allow a site receiving assistance from the Brownfields Program to make a seamless transition, if necessary, to other IDEM programs such as the [Voluntary Remediation Program](#). Furthermore, the adoption of RISC will create consistent, risk-based standards among all IDEM closure programs. The application of RISC guidance will increase the level of comfort of Brownfields Program participants because every property will achieve the same standards as those under IDEM's regulatory programs.

Overview of Brownfields Project Requirements

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- h BEA

6.3 Brownfields Project Requirements for Grant and Loan Recipients

All recipients of State grants and loans and federal loans under the Brownfields Program should follow the RISC screening guidance as well as all other pertinent RISC requirements. The report outline formats in [Appendix 1](#) and the petroleum guidance in [Appendix 4](#) of the RISC User's Guide also specify procedures to be followed under the Brownfields Program. Participants should provide all screening information required in Appendix 1 of the RISC User's Guide, an investigation work plan, and an investigation report. The investigation work plan may consist of multiple plans detailing screening and/or nature and extent investigations. Loan recipients must also submit remediation work plans and remediation closure reports.

6.3.1 Presampling Requirements

Participants should begin by gathering pertinent information concerning past property management practices and their potential impacts on human health and the environment. This activity allows (1) better definition of source areas, (2) definition of the investigation scope necessary for the desired liability coverage, and (3) characterization of areas by likelihood of contamination. Historical information will be used to classify areas and select environmental media and chemicals for screening.

To better identify applicable project objectives, all existing data concerning environmental contamination should be assessed. Assessing this information before sampling saves time and money because reliable information can lead to better project screening and sampling plans. Often, a Phase I environmental site assessment (ESA) report has been prepared for the property in accordance with the American Society for Testing and Materials (ASTM) ESA guidelines ([ASTM E-1527-97](#) or [E-1528-96](#)). This report can be an excellent source of background information and supplement information required by RISC guidance.

6.3.2 Area Classification

Based on the information gathered during the presampling investigation, all areas of the site must be classified into one of the following three categories:

- # Areas unlikely to be contaminated
- # Areas known to be contaminated
- # Areas that may be contaminated

Areas unlikely to be contaminated are portions of a site where there is no reason to suspect contamination. Available historical site data is used to make this determination. Closure is not provided on these areas unless analytical information is obtained and made available for review.

Areas known to be contaminated are areas where contaminant releases are known to have occurred. Previous sampling data, records that document site contamination, visibly stained soils, soil odors, and other investigative data that indicate contamination can be used as a basis for this classification.

Areas that may be contaminated are areas that cannot be classified in either of the other two categories. Significant data gaps or ambiguous or inconclusive information exists for these areas.

Area classification can lead to more efficient sampling designs and be modified as data become available. Although areas known to be contaminated may provide the initial impetus for performing investigations at a brownfield property, discovery of other areas of contamination may suggest a need for investigation of other potential environmental threats or impacts. Information gathered from historical records, knowledge of waste streams, operational practices, and the potential for threats to human health or the environment may justify further investigation.

6.3.3 Selecting Chemicals of Concern and Environmental Media

The participant should establish a preliminary list of chemicals of concern (COC) during RISC presampling activities. The list should be comprehensive enough to cover all chemicals (including petroleum) that may be present at the property. Based on the considerations discussed below, the participant can shorten the initial list of chemicals requiring investigation. This provides a flexible yet logical approach to including or excluding particular contaminants from further investigation and remediation. This approach balances the benefits of flexibility with efficient and effective protection of human health and the environment.

For the preliminary list, the participant should determine all chemicals known or reasonably suspected to have been released to soil and ground water, (the COCs). The list of COCs includes compounds used, treated, stored, and disposed of at specific area(s) on the property. Chemicals that are reasonably suspected to have been released include all chemicals typically associated with the releases to be addressed (for example, benzene, toluene, ethylbenzene, xylenes, and possibly methyl-tertiary butyl ether (MTBE) for petroleum storage tank releases) and breakdown (or “daughter”) products for each chemical. [Appendix 4.1](#) of this User’s Guide discusses specific categories of COCs typically associated with LUST petroleum projects. Specific chemicals may then be eliminated from further investigation for a variety of reasons, such as those summarized below.

- # Screening or other investigation demonstrates that a chemical is not located in a particular medium.

- # There is a low risk of exposure to humans and the environment from the chemicals, given current and future land use, and considering land use controls, laws, zoning, or other restrictions.
- # The participant cannot reasonably gain access to areas where a chemical is located.
- # Investigation is technically or economically infeasible.
- # The owner and other interested parties are neither responsible for the contamination nor liable for cleanup under State or federal law.

Adequate reasons to exclude a particular medium may include the following:

- # Establishing that current contamination or site conditions preclude contaminant transport to a certain medium
- # Establishing lack of contribution to or liability from an off-site contamination source
- # Demonstrating that risks from ground water contamination pose minimal threats with respect to drinking water sources, dermal (utility work) exposure, indoor air, and surface water
- # Demonstrating that risks from soil contamination pose minimal threats with respect to direct contact, air inhalation, and ground water exposure
- # Demonstrating that future land or ground water use-restrictions or ordinances will sufficiently limit exposure

Criteria for excluding particular media, areas, and chemicals will become apparent as historical, operational, and past sampling information becomes available. Ecological risks must also be considered. The investigation work plan should discuss exclusion of site areas, chemicals, and media from investigation based on historical knowledge. This discussion, along with IDEM's approval of the exclusion of site areas, chemicals, and media, will provide comfort to interested parties that the excluded conditions are unlikely to present a barrier to redevelopment. The specific areas, contaminants, and media addressed will be documented in any IDEM-approved closure documents.

6.3.4 Investigation

The purpose of investigation is to determine the presence of contaminants at concentrations exceeding RISC default closure levels and any need for further investigation. Area screening or nature and extent investigations should be performed for each COC and environmental medium not excluded by the process described in [Section 6.3.3](#). For grant recipients with limited or no sampling information, IDEM recommends performing RISC default screening procedures for surface and subsurface soil, and at least a limited nature and extent evaluation for ground water, unless those media are excluded by the process described in [Section 6.3.3](#). Grant recipients with more information about site conditions may skip to a nature and extent investigation, consistent with RISC, for areas that probably will not pass RISC area screening. Loan recipients may follow these procedures, but may want to perform a more extensive investigation in anticipation of developing a remediation work plan. Loan recipients are expected to document the objectives, rationale, and procedures followed during the investigation, as well as investigation findings, in the remediation work plan.

Screening information is provided in the investigation report or remediation work plan as detailed in [Appendix 1](#) of the RISC User's Guide. Screening procedures described in [Chapter 3](#) of the RISC Technical Guide recommend two tests for evaluating the results of soil screening samples: the Max Test and the Chen Test. Please note that the Max Test may not be used for volatile chemicals. [Appendix 4](#) of the RISC User's Guide provides a two-step procedure for screening subsurface soil at LUST and other petroleum sites.

RISC default ground water screening procedures are not necessary for projects in which ground water is excluded under [Section 6.3.3](#). However, IDEM will only comment on ground water conditions (i.e., in a site status letter or comfort letter) if it is sampled following the screening procedures in [Chapter 3](#) of the Technical Guide. If a chemical is detected in ground water, the nature and extent of the contamination must be determined as described in [Chapter 4](#) of the Technical Guide.

The purpose of nature and extent determinations and investigations is to determine a representative contaminant level for exposure assessment. [Chapter 4](#) in the RISC Technical Guide provides a detailed analysis of nature and extent determination procedures. Nature and extent determinations are recommended for grant or loan recipients as well as required for sites that have failed RISC area screening. Failure to provide this information will delay review and

generally impede IDEM's ability to provide timely and constructive comment. Additionally, following RISC requirements will ease transition into the VRP, if desired. Descriptions of presampling activities and optional screening data results should be incorporated into the investigation report as applicable. Participants should provide three copies of the investigation report to the Brownfields Program to facilitate technical review.

If a participant is confident that the proposed project area(s) will pass RISC default screening or project closure sampling requirements, the Brownfields Program should be contacted to discuss the possibility of IDEM performing split or confirmation sampling. VRP requires split or confirmation sampling for project closure; if the participant believes that entry into VRP is possible, IDEM may perform this confirmation sampling before entry into VRP. If the participant believes that the site may enter the VRP, the Brownfields Program should be contacted to coordinate future interaction with the VRP.

6.3.5 Remedial Action Requirements

Loan recipients that are performing remedial work (including a risk assessment) must submit three copies of the remediation work plan to the Brownfields Program for complete review. All itemized reporting requirements identified in [Appendix A1.2](#), Remediation Work Plan, apply. For Brownfields Program properties that receive funding through the State ERRLF grant and loan program or the federal BCRLF, remedial actions need to be addressed by either the Brownfields Program or another IDEM program (such as the VRP). Specific property considerations will determine which IDEM program is appropriate.

6.4 Brownfields Environmental Assessment

IDEM conducts Brownfields Environmental Assessments (BEAs) for political subdivisions. BEAs are awarded through an application process and may be performed on an entire property or specific portions of a property. IDEM staff will follow default RISC presampling and area screening procedures to conduct BEAs. IDEM will consider the property's environmental condition and anticipated future uses in order to develop an appropriate scope of work for the BEA. IDEM staff will also consider the needs of interested parties when developing the BEA's scope. Political subdivisions are encouraged to identify the property lenders, prospective purchasers, other government entities, and all interested parties so that IDEM can develop an agreeable area screening and investigation plan. The BEA will provide conclusions and recommendations for suggested actions.

IDEM staff will adhere to RISC presampling, area screening, and other RISC procedures when performing BEAs.

IDEM will follow a process similar to the process described in [Section 6.3](#), “Brownfields Project Requirements for Grant and Loan Recipients,” when performing a BEA. IDEM staff will adhere to the default RISC pre-sampling, area screening, and investigative standards when performing BEAs. Following are other considerations for the BEA process.

6.4.1 Presampling Requirements

In order to assist IDEM in evaluating existing information, participants are especially encouraged to submit to IDEM all historical information related to a site.

6.4.2 Area Classification

After developing an initial scope of work, IDEM staff will classify the facility into areas of concern, identifying them as areas known to be contaminated, areas that may be contaminated, and areas unlikely to be contaminated.

6.4.3 Selecting Chemicals of Concern and Environmental Media

IDEM staff will establish a preliminary chemicals of concern list during prescribed RISC pre-sampling activities. IDEM staff will begin with a list of all compounds that were either used, treated, stored or disposed of at all areas of the facility and their breakdown products. IDEM staff will pare down the initial list of contaminants for which further investigation is necessary. IDEM will discuss the area classification and selection of chemicals and media in the BEA report.

6.4.4 Investigation

IDEM staff will proceed to perform area screening for soils for the areas, and chemicals of concern, selected in the pre-sampling activities. IDEM staff will also perform a nature and extent investigation for ground water. Due to economic constraints, the nature and extent investigation provided in a BEA may not fulfill IDEM’s investigative standards, but it will provide a substantial amount the work required for a VRP investigation.

6.5 Property Closure Options

The Brownfields Program provides Site Status Letters and the Comfort Letters as closure documents. A participant can consider a BEA report showing that the site is not contaminated as a third form of closure that may facilitate property transfer. The Site Status Letter and the Comfort Letter are designed to quantify liability and thus encourage brownfields redevelopment. The Brownfields Program will provide either a Site Status or Comfort Letter for specific areas that are screened out or that were remediated. These letters may also identify areas unlikely to be contaminated.

Information submitted to the Brownfields Program in an attempt to obtain a Comfort Letter or Site Status Letter will be evaluated based on RISC requirements, including applicable pre-sampling, area screening, nature and extent requirements and closure objectives. [Section 6.3](#) may be used as a guide to determine adherence to RISC requirements.

6.5.1 Site Status Letter

A Site Status Letter details the Brownfields Program staff's technical opinion of site conditions as they relate to property transfer. Although a Site Status Letter may be issued in conjunction with a Comfort Letter, the Site Status Letter is typically issued to a party that would be liable for the contamination. For example, a Site Status Letter would compare site investigation information to RISC pre-screening and screening requirements and clarify whether the site could be the subject of an enforcement action. IDEM can then advise whether conditions may be a barrier to transfer. The letter does not guarantee that the site will not be the subject of an enforcement action and does not exempt the recipient from liability. However, it represents a sound assessment of the likelihood of an enforcement action. It is expressly based only on the information provided to IDEM. RISC default and nondefault standards are the basis for issuance of Site Status Letters.

6.5.2 Comfort Letter

Comfort Letters are issued to parties that are relieved of liability through statute or published IDEM policy. These letters provide an opinion regarding IDEM's possible pursuit of legal actions against a seller, owner, or potential purchaser of a brownfields site. Comfort Letters discuss the applicable exemption to liability created by law, rule, or published state policy. It may or may not address specific site environmental conditions.

Examples include limitations on liability for older underground storage tanks and the liability defense of the contaminated aquifers policies. These exemptions exist no matter how severe the contamination is. For example, a property owner with a LUST cannot be held liable if the owner purchased the property after the tank was closed (if the tank was closed before 1984), even if the site exceeds LUST cleanup values. This exception is found in the definition of a LUST "owner" in [IC 13-11-2-150](#). The letter may be more definitive for this type of clear-cut liability exemption, and less definitive for more nebulous issues such as migration from an off-site source. The decision to issue a Comfort Letter is highly site-specific.